

Response to the Office Action
Dated November 30, 2004

Appln. No. 10/613,804

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REMARKS

This is in response to the Office Action dated November 30, 2004. Reconsideration is respectfully requested.

Interview Summary

Applicants thank the Examiner for the interview granted their attorney, John Chionchio, on February 2, 2005, wherein Claim 1 was discussed as well as U.S. Patent No. 5,897,119 to McMillen and U.S. Patent No. 5,560,587 to McCutcheon et al. The attorney presented arguments against the anticipation rejection of Claim 1 on the basis of McMillen, the arguments presented being repeated in detail in the argument section provided below. Although no agreement was reached, the Examiner stated that he would consider the arguments when presented in a reply, and expressed the idea that McMillen was perhaps not the best reference in support of the anticipation rejection, and that a further search would likely be conducted in response to the applicants' reply if filed.

Acknowledgment of Allowable Subject Matter

Claims 1-42 are pending. Applicants acknowledge, with appreciation, that Claims 24-42 are allowed.

Summary of the Rejections

Claims 1-23 are rejected as anticipated by U.S. Patent No. 5,897,119 to McMillen.

The Argument

Applicants respectfully traverse the rejection of Claims 1-23, contending that the cited reference fails to meet the requirements necessary for anticipation. To anticipate a claim, the reference must teach every element of the claim. "The identical invention must be shown in as complete detail as is contained in the...claim." Richardson v. Suzuki Motor

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Co., 9 USPQ2d, 1913, 1920 (Fed. Cir. 1989). "A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." Verdegaal Bros. V. Union Oil Co. of California, 2 USPQ2d, 1051, 1053 (Fed. Cir. 1987).

Applicants demonstrate below, on a claim-by-claim basis, that McMillen does not teach every element of applicants' claims and, therefore, cannot properly support a rejection on the basis of obviousness.

Claim 1

Claim 1 is an independent claim drawn to a seal formed of a flexible, resilient loop. Claim 1 recites, in relevant part, "a flexible resilient sealing lobe extending around said loop, said sealing lobe having a deformable sealing surface facing in said axial direction..." The axial direction is defined in the preamble of Claim 1 as the direction of fluid flow through the valve in which the loop is positionable. Figures 2, 3A and 3B of the application (attached hereto) illustrate an embodiment of the seal 10 formed from a loop 12 having a sealing lobe 16 with a sealing surface 18 that faces in the axial direction as defined by axis 20. The sealing surface is engageable with a knife gate 46 for effecting the fluid tight seal. Note that for a surface such as 18, to face in the axial direction means that the surface is substantially perpendicular to the axial direction.

In rejecting Claim 1, the Examiner has identified item 36, shown in Figures 3 and 4 (attached hereto) from McMillen as a "sealing lobe extending around the loop". The Examiner has, however, ignored the further claim recitation regarding this sealing lobe, i.e., that the sealing lobe has a sealing surface "facing in said axial direction". Sealing lobe 36 of McMillen has a sealing surface that engages a shaft 14 as shown in Figure 4. The sealing lobe 36 thus prevents fluid

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from flowing lengthwise along shaft 14. That is, in fact, the function of the seal disclosed in McMillen. Thus, by analogy, the axial direction for the seal disclosed in McMillen is parallel to shaft 14. Applicant has denoted this direction by addition of an arrow to Figures 3 and 4.

Claim 1 recites that the sealing surface of the lobe faces in the axial direction. This means that the sealing surface is substantially perpendicular to the axial direction. This can be seen in applicants' Figure 2, where the sealing surface 18 is substantially perpendicular to axis 20. However, as shown in Figures 3 and 4 of McMillen, the sealing surface of lobe 36 (i.e., the surface that contacts the shaft 14) is parallel and not perpendicular to the axial direction denoted by the arrow. In fact, the sealing surface of lobe 36 faces everywhere in the radial direction, i.e., the sealing surface faces inwardly toward the shaft.

The sealing lobe 36 in McMillen identified by the Examiner does not meet every recitation of Claim 1 because it faces in the wrong direction from that recited in the claim. This is not surprising since the seal of McMillen is a radial seal, and its sealing surface must face in the radial direction to effect a seal, unlike applicants' invention which is not a radial seal, but seals in a plane facing in the axial direction as defined by the fluid flow direction. Since the cited reference does not teach every element of Claim 1, it cannot properly support a rejection on the basis of anticipation.

Claim 1 further recites "a second channel extending around said loop and positioned contiguous to said sealing lobe, said second channel facing inwardly of said loop". This second channel is shown in Figures 2, 3A and 3B as 36. The Examiner has identified the channel that retains bearing 50 as

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this channel. However, channel 50 is not "contiguous" with sealing lobe 36 but is in spaced relation away from it. Contiguous means "being in actual contact" or "touching along a boundary or at a point". Applicants' Figures 3A and 3B clearly show what is meant by "contiguous", with channel 36 being contiguous with lobe 16. Channel 50 is not in such relation with lobe 16 in McMillen, and therefore, an element recited in Claim 1 is again not taught in the cited reference. The reference thus fails to meet the requirement for anticipation that every claim element be taught and cannot properly support a rejection on the basis of anticipation.

Claims 2-15 depend, either directly or indirectly, upon Claim 1 and should be allowable for the same reasons that Claim 1 is allowable over the cited reference.

Claim 16

Claim 16 is an independent claim that also recites a sealing lobe having a sealing surface that faces in an axial direction and a channel contiguous with the sealing lobe as recited in Claim 1. As demonstrated above, these recitations are not taught in McMillen, and Claim 16 should, therefore, be allowable for the same reasons that Claim 1 is allowable over the cited reference.

Claims 17-23 depend, either directly or indirectly, upon Claim 16 and should be allowable for the same reasons that Claim 16 is allowable.

Summary

Applicants have demonstrated that the cited reference McMillen does not teach every claim element because it fails to teach a sealing surface facing in an axial direction and a sealing lobe contiguous with an inwardly facing channel as recited in the claims. Applicants contend that the claims are

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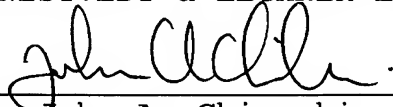
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allowable over the cited reference, that the application is in condition for allowance and request, therefore, that the application be passed to issue.

Respectfully submitted,

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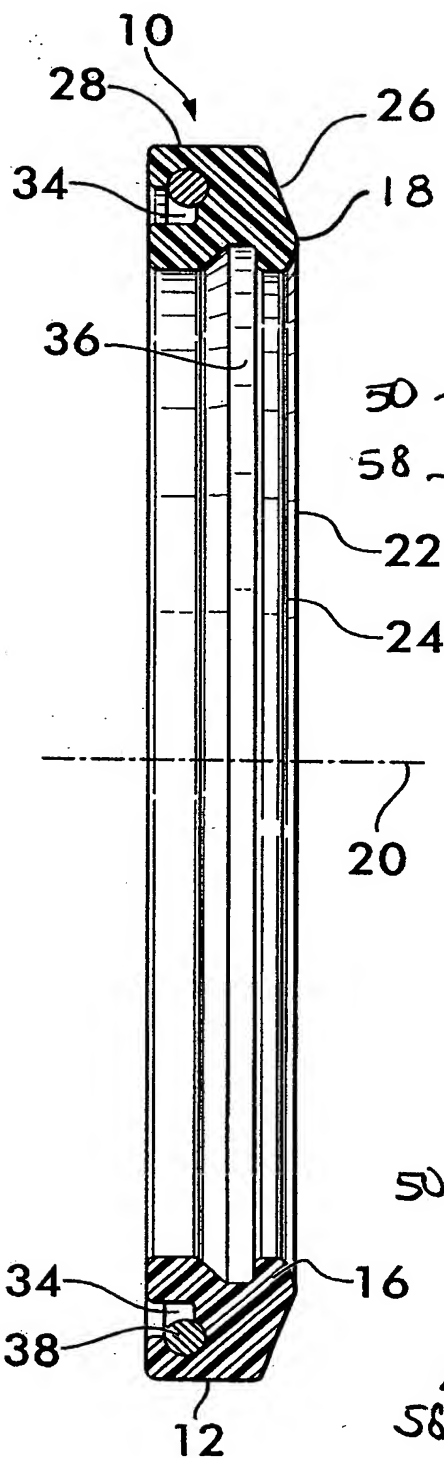


FIG. 2

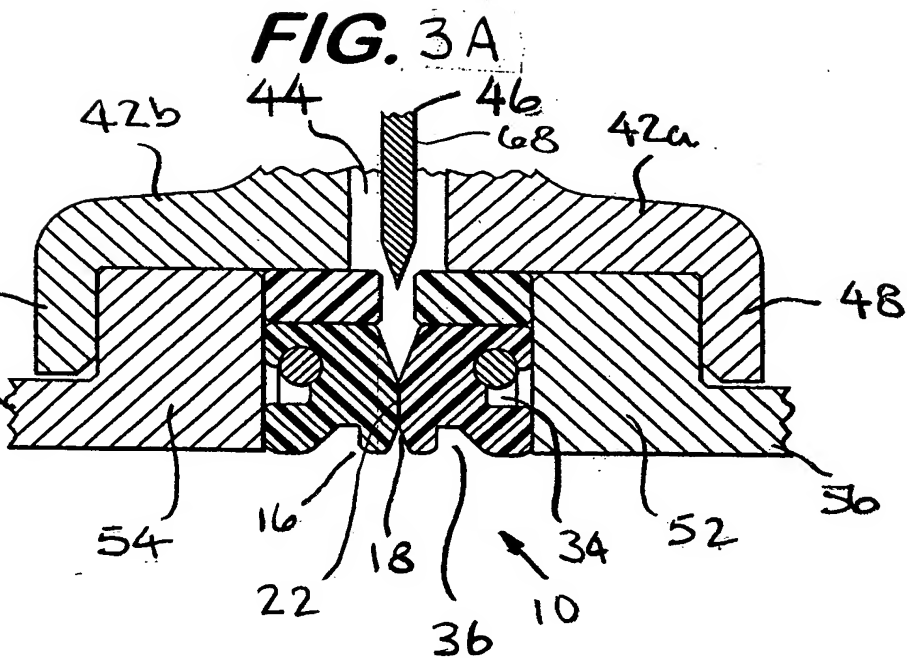


FIG. 3A

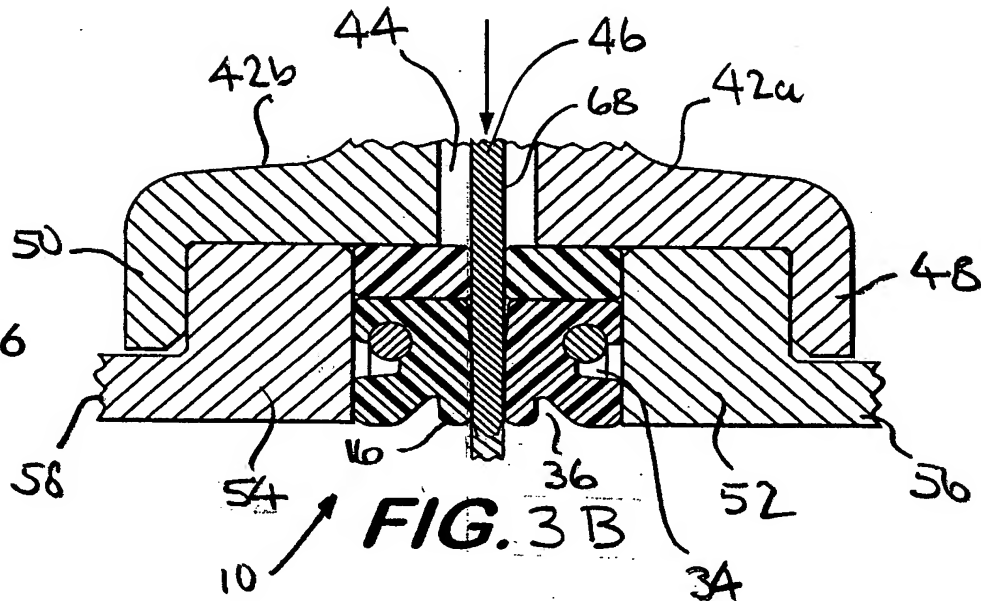


FIG. 3B

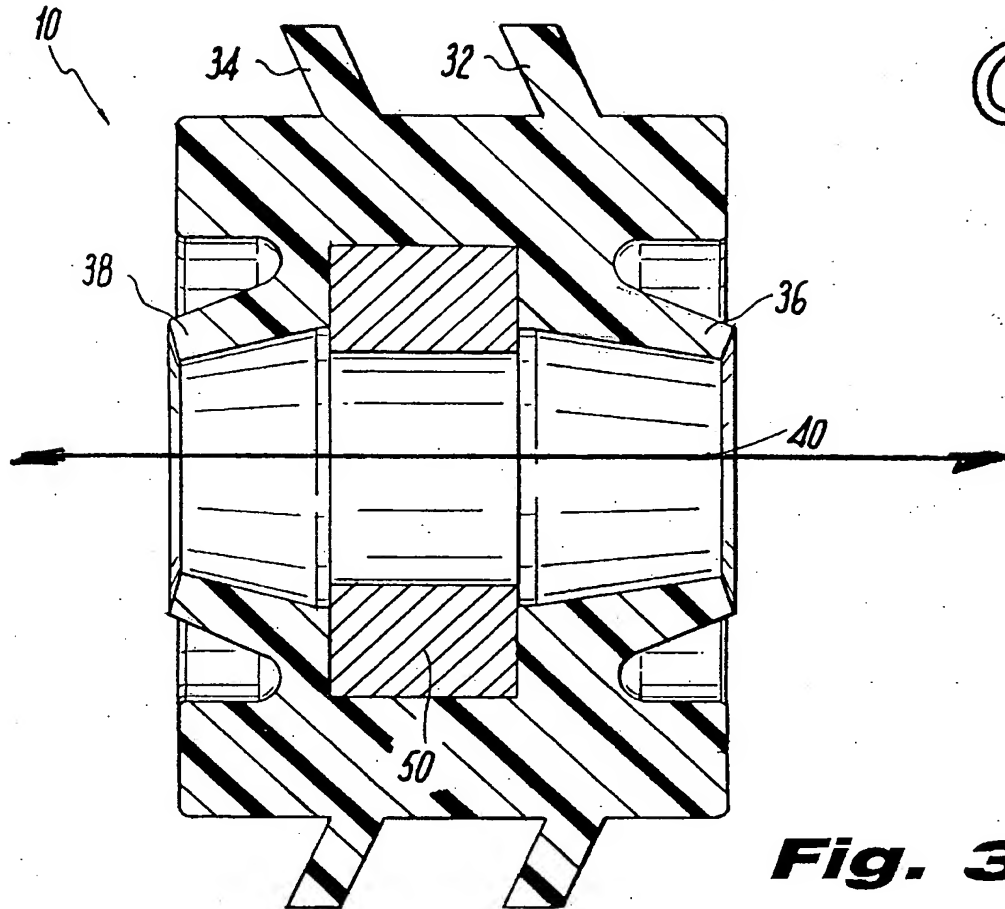


Fig. 3

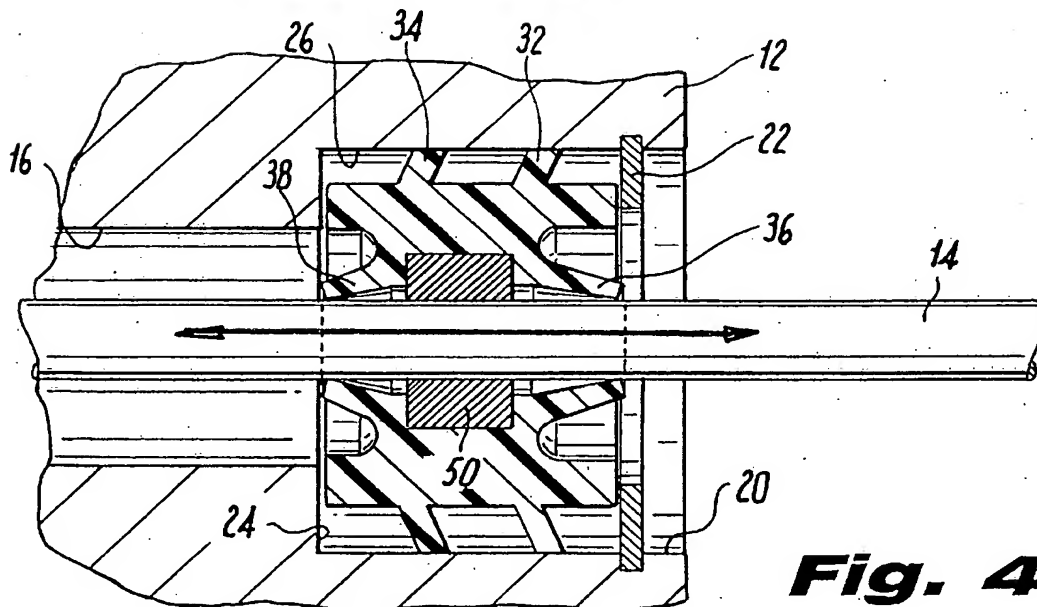


Fig. 4

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